

EXHIBIT A

**REDACTED VERSION OF
DOCUMENT SOUGHT TO BE
SEALED**

[illegible]

PURSUANT TO PROTECTIVE ORDER

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I. INTRODUCTION

1. I have been retained by Plaintiffs, Sentius Corporation (“Sentius”) and their counsel as an expert in this litigation. I have been asked to opine if Microsoft Corporation (“Microsoft”) has infringed and continues to infringe (literally, under the doctrine of equivalents, directly, and indirectly) claim 96 of U.S. Patent No. RE 40,731 (the ‘731 patent), claims 62, 64, 70, 146, 148, 149, 154, 164 of U.S. Patent No. RE 43,633 (the ‘633 patent) and claims 1, 6, 10, 11, 16, 37, 41, and 44 of U.S. Patent No. 7,672,985 (the ‘985 patent) (collectively the “Asserted Claims”).

2. Sentius has accused the following Microsoft products – Microsoft Word (2013 & 2010), Microsoft Powerpoint (2013 & 2010), Microsoft Outlook, Microsoft OneNote, and Microsoft Publisher, with support from Microsoft’s operating systems, (collectively the “Accused Products”) of infringing the Asserted Claims of the ‘731 patent, the ‘633 patent and the ‘985 patent. I was asked to analyze the accused Microsoft products to determine whether they infringe the Asserted Claims. As part of my analysis, I have studied the patents-in-suit, their prosecution file histories, the Court’s claim construction orders, and the Accused Products. The opinions set forth in this report are based on my personal knowledge and professional judgment, and I am prepared to testify competently about them if called as a witness during the trial in this matter.

3. It is my opinion that Microsoft infringes the Asserted Claims directly and indirectly, and also under the doctrine of equivalences. It is also my opinion that Microsoft’s customers and users of Accused Products infringe the Asserted Claims.

II. QUALIFICATIONS / PRIOR TESTIMONY

4. My qualifications can be found in my Curriculum Vitae, which includes a complete list of my publications, and is attached as Exhibit A. I am a Professor in Electrical and Computer Engineering at the Georgia Institute of Technology (“Georgia Tech”). I have worked within the area of computer

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[Ref 4]. S. Kahn, "An Overview of Three Relational Database Products", IBM Systems Journal, Vol 23, No. 2, 1984.

[Ref 5] W. Kim, Modern Database Systems (ACM Press, 1995).

[Ref 6] S. Campbell and S. Chung, "Role of Database Systems in the Management of Multimedia Information", IEEE International Workshop on Multimedia Database Management Systems, 1995.

[Ref 7] Patents in suit USRE43,633, USRE40,731 and US 7,672,985 and their prosecution histories

[Ref 8] Patents assigned to Microsoft; US 5,649,222 and US 6,085,206 and their file histories

[Ref 9]. [MS[MS -DOC]: DOC]: DOC]: Word (.doc) Binary File Format Word.

[Ref 10]. [MS-ONE] OneNote File Format.

[Ref 11]. [MS-PPT] PowerPoint (.ppt) Binary File Format

[Ref 12]. [Article. Finding Approximate Matches in Large Lexicons. 25 Software-Practice and Experience 331. By Justin Zobel and Philip Dart.]

[Ref 13]. [Office Open XML Part 3] - Bates Number - MS_SENTIUS374005 and MS_SENTIUS480673.

[Ref 14] Testing and results of behavioral features of the Accused Products

[Ref 15] The source code produced by Microsoft

[Ref 16] Deposition testimony of Microsoft Witnesses (including Mr. Tristan Davis, Mr. Alexandre Mogilevsky; Mr. Anthony Krueger, Mr. Robert Little, Mr. Terrence Crowley)

VI. ACTS OF INFRINGEMENT

87. I summarize my opinions on infringement by Microsoft and its customers/users as follows. Microsoft infringes directly and indirectly, and also under the doctrine of equivalence.

A. '731 and '633 Patents

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Patent & Claim No.	Direct Infringement	Inducing Infringement	Contributory Infringement
'731 patent, claim 96 '633 patent, claims 62, 64, 70, 72, 76, 146, 148, 149, 151, 154, 156, 159, 164 (all method claims)	By Microsoft by using the accused spell check, grammar check and actions features in the accused products in the United States. By Customers/End-users of the accused products by using the accused spell check, grammar check and actions features in the accused products in the United States.	By Microsoft by making and selling the accused products in the United States and/or importing the accused products into the United States, by designing and promoting such products and by instructing customers/end-users how to engage in their infringing use including by providing documentation supporting and/or encouraging use of the accused features.	By Microsoft by selling the accused products with the accused features in the United States and/or by importing them into the United States.

88. I understand that “whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.” See 35 U.S.C. § 271(a). Since each of the patents-in-suit in the first patent family issued: June 9, 2009 ('731 patent) and September 4, 2012 ('633 patent), Microsoft has and continues to practice the asserted method claims of the '731 and '633 patents by its use of accused features (spell check, grammar check and actions) in the accused products. Under 35 U.S.C. §271(a), whenever Microsoft uses the accused features (background spell check, grammar check and actions) in the accused products in the United States it directly infringes the asserted '731 and '633 claims. For example, I understand that Microsoft employees use the accused products in the United States for Microsoft's own word processing needs. Additionally, I understand that Microsoft tests the accused features to ensure the software components work properly. <https://www.linkedin.com/jobs2/view/10229143>. Through its own use and testing activities with regards to the accused features, Microsoft uses the claimed methods in the United States. Thus, each of these

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activities with respect to the accused products directly infringes the asserted '731 and '633 method claims, and it is my opinion that Microsoft has thereby directly infringed these asserted claims.

89. I understand that “whoever actively induces infringement of a patent shall be liable as an infringer.” See 35 U.S.C. § 271(b). Since the patents-in-suit issued, Microsoft has also indirectly infringed the asserted '731 and '633 claims through active inducement. Under 35 U.S.C. § 271(a), whenever anyone uses the accused features in Microsoft's accused products within the United States, such person directly infringes the asserted '731 and '633 claims. Those entities using Microsoft's accused features in the accused products within the United States include Microsoft's customers and the end-users of Microsoft's accused products in the United States. These entities directly infringe the '731 and '633 claims by using the accused features in the accused products in the United States. At least by the date the complaint in this case was filed, Microsoft had knowledge that these acts of its customers/end-users constitute infringement of the asserted '731 and '633 method claims. Therefore, Microsoft has induced and continues to induce infringement of the asserted '731 and '633 claims by the accused products. It is my opinion that Microsoft's acts of making, using, selling, or offering to sell in the United States, or by importing the accused products into the United States, constitute affirmative steps taken to encourage infringement of the asserted '731 and '633 claims in the United States. For example, I understand that Microsoft purposefully takes actions to induce infringement of the asserted '731 and '633 claims by advertising and promoting the accused products in the United States, instructing how to engage in infringing use, designing and manufacturing (or authorizing the manufacture of) infringing products, and selling infringing products to customers who ultimately use the accused products in the United States. Microsoft takes these actions to aid and encourage infringement with the knowledge and intent that the accused products will ultimately be used in the United States to practice the '731 and '633 claims. Microsoft also provides customer support to assist the use of the accused products, and Microsoft

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provides documentation supporting and encouraging the use of the accused features in the accused products, including the use of various applications, such as Word, Outlook, Publisher, PowerPoint, and OneNote. See, e.g., MS_SENTIUS009234; MS_SENTIUS009239; MS_SENTIUS009202; MS_SENTIUS009207; MS_SENTIUS009248; MS_SENTIUS009256; MS_SENTIUS009211; MS_SENTIUS009242; MS_SENTIUS009240; MS_SENTIUS009222; MS_SENTIUS009192; MS_SENTIUS009239; MS_SENTIUS009202; MS_SENTIUS009211; MS_SENTIUS009248; MS_SENTIUS009242; MS_SENTIUS009222; MS_SENTIUS009240; see also Microsoft's website. See *infra* help documents provided as a result of searches on <http://office.microsoft.com/en-us/support/>” Thus, it is my opinion that Microsoft has thereby actively induces the infringement of the asserted ‘731 and ‘633 claims.

90. I understand that “whoever offers to sell or sells within the United States or imports into the United States a component of a patented machine, manufacture, combination or composition, or a material or apparatus for use in practicing a patented process, constituting a material part of the invention, knowing the same to be especially made or especially adapted for use in an infringement of such patent, and not a staple article or commodity of commerce suitable for substantial noninfringing use, shall be liable as a contributory infringer.” See 35 U.S.C. § 271(c). Since the patents-in-suit issued, Microsoft has also indirectly infringed the asserted ‘731 and ‘633 claims through contributory infringement.

91. As explained in my report, software components comprising the accused features in Microsoft's accused products constitute a material part of the inventions of the asserted ‘731 and ‘633 claims. These components have also been known by Microsoft to be especially made or especially adapted for use in infringement of the asserted ‘731 and ‘633 claims, and are not staple articles or commodities of commerce suitable for substantial noninfringing use. For example, there is no substantial noninfringing use with respect to the accused spell check, background grammar check and actions functionalities in the accused

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products provided by the components described in this report. Microsoft has provided the accused products to end-users in the U.S., with knowledge that use of the accused features in accordance with their design constituted infringement of the asserted '731 and '633 claims and with knowledge that its software constituted a material component of the inventions in the asserted '731 and '633 claims with no substantial noninfringing use. Thus, it is my opinion that Microsoft has thereby contributed to the infringement of the asserted '731 and '633 claims.

B. The '985 Patent

Patent & Claim No.	Direct Infringement	Inducing Infringement
'985, claim 1, 6, 37 (method claims)	<p>By Microsoft by using the accused spell check, grammar check and actions features in the accused products in the United States with dictionaries syndicated by Microsoft</p> <p>By Customers/end-users of the accused products by using the accused spell check, grammar check and actions features in the accused products in the United States with dictionaries syndicated by Microsoft.</p>	<p>Microsoft by making and selling the accused products in the United States and/or importing the accused products into the United States, by designing and promoting such products and by instructing customers/end-users how to engage in their infringing use including by providing documentation supporting and/or encouraging use of the accused features with dictionaries syndicated by Microsoft.</p>

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Patent & Claim No.	Direct Infringement	Inducing Infringement
'985 claim 10, 11, 16, 41, 44 (computer program, computer implemented system)	<p>By Microsoft by making, using, selling and/or offering to sell in the United States and/or importing into the United States the accused products that are capable of using the accused features with syndicated dictionaries.</p> <p>By Customers/end users of the accused products wherein the accused features are used with syndicated dictionaries.</p>	<p>Microsoft by making and selling the accused products in the United States and/or importing them into the United States and by designing, advertising and by promoting such products and instructing customers/end-users how to engage in their infringing use including by providing documentation supporting and/or encouraging use of the accused features with syndicated dictionaries and by syndicating the dictionaries.</p>

92. Since the patent-in-suit from the second patent family issued on March 2, 2010 ('985 patent), Microsoft has and continues to practice the asserted computer program and system claims of the '985 patent including by making, using, selling, offering to sell in the United States and/or importing into the United States the accused products with . Under 35 U.S.C. § 271(a), whenever Microsoft practices the asserted '985 claims including via by making, using, selling, offering to sell in the United States and importing into the United States the accused products, it directly infringes the asserted '985 claims. I further understand that Microsoft practices the asserted '985 method claims by using in the United States the accused features of the accused products with Microsoft syndicated dictionaries for its own needs and also by its testing of the accused features of the accused products with Microsoft syndicated dictionaries. Thus, each of these activities with respect to the accused products directly infringes the asserted '985 claims, and it is my opinion that Microsoft has thereby directly infringed the asserted '985 claims.

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93. I understand that “whoever actively induces infringement of a patent shall be liable as an infringer.” See 35 U.S.C. § 271(b). Since the patents-in-suit issued, Microsoft has also indirectly infringed the asserted method claims of the ‘985 patent through active inducement. Under 35 U.S.C. § 271(a), whenever anyone in the United States uses the accused spell check, grammar check or actions features of Microsoft’s accused products with Microsoft syndicated dictionaries,, such person directly infringes one or more of the asserted ‘985 claims. Thus, Microsoft’s customers and end-users of the accused products directly infringe the asserted ‘985 claims by using the accused features the accused products with Microsoft syndicated dictionaries.

94. At least by the date the complaint in this case was filed, Microsoft had knowledge that these acts constitute infringement of the asserted ‘985 claims. Therefore, Microsoft has induced and continues to induce infringement of the asserted ‘985 claims by the accused products. It is my opinion that Microsoft’s acts of making, using, selling, offering to sell, and importing the accused products constitute affirmative steps taken to encourage infringement of the asserted ‘985 claims. For example, Microsoft purposefully takes actions to induce infringement of the Asserted Claims by advertising and promoting the accused products in the United States, instructing how to engage in infringing use, designing and manufacturing (or authorizing the manufacture of) infringing products, and selling infringing products to customers who ultimately use the accused products in the United States.¹ Microsoft takes these actions to aid and encourage infringement with the knowledge and intent that the accused products will ultimately be used in the United States to practice the ‘985 claims. Microsoft also provides customer support to assist the use of the accused features in the accused products with dictionaries syndicated by Microsoft, and Microsoft provides documentation supporting and encouraging the infringing use of the accused

¹ For evidence of instructing, advertising and promoting see paragraphs 88 and 89.

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products². Thus, it is my opinion that Microsoft has thereby actively induces the infringement of the asserted '985 method claims.

95. I understand that “whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.” See 35 U.S.C. § 271(a). Since the '985 patent issued, Microsoft has and continues to directly infringe the asserted computer program and computer implemented system of the '985 patent by making, using, selling and/or offering to sell in the United States and/or importing into the United States the accused products wherein the accused features are used with dictionaries syndicated by Microsoft. Moreover, Microsoft's customers and end users of the accused products also directly infringe the computer program and computer implemented system claims when they utilize the accused features of the accused products with dictionaries syndicated by Microsoft. Additionally, I understand that Microsoft tests the accused features of the accused products with dictionaries syndicated by Microsoft to ensure the software works properly. <https://www.linkedin.com/jobs2/view/10229143>. (see also MS_SENTIUS008823 at -825.) Through its internal use and testing activities with regards to the accused features, Microsoft directly infringes the computer program and computer implemented system claims. In this regard, I note that Claim 1 and its dependent claims (including claim 10) are focused on the remote computer that uses the syndicated dictionary to perform the linking resulting from the “parsing”, “identifying” and “associating” steps. That the dictionary must first necessarily be made available by Microsoft for automatic download and use by the remote computer only defines the environment in which the remote computer must operate to perform the “parsing”, “identifying” and “associating” steps. As the “wherein” clause further confirms, the remote computer uses the syndicated dictionary to effectuate the linking. (See *Uniloc USA v. Microsoft*, CAFC 2011). Since the patents-in-suit issued, Microsoft has also indirectly infringed the asserted computer

² *Id.*

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program and computer implemented claims of the '985 patent through active inducement of its customer's and end user's direct infringement by making and selling the accused products in the United States and/or importing them into the United States and by designing, advertising and by promoting such products and instructing customers/end-users how to engage in their infringing use including by providing documentation supporting and/or encouraging use of the accused features with syndicated dictionaries and by syndicating the dictionaries.

C. Willful Infringement

96. Despite the allegations of infringement in this case based on the Asserted Claims of the '731/633/985 patents, I understand Microsoft has not stopped making, selling, offering for sale or importing the accused products, or made changes to their sales, distribution, technical support, customer service, or testing activities with respect to the accused products nor has provided any legal opinion justifying its failure to do so.

97. In my opinion, Microsoft knew or was at least willfully blind that it was infringing the Asserted Claims. To my knowledge, Microsoft has not provided any credible non-infringement or invalidity defenses, nor has Microsoft produced any opinion of counsel that would support any belief that any of the accused products do not infringe the Asserted Claims or that the Asserted Claims are invalid. Given the strong technical case for infringement as set forth in my report, Microsoft knew or was willfully blind that when Microsoft's accused products were used as they were designed and intended to be used would directly infringe the Asserted Claims. To my knowledge, Microsoft has not had any reasonable basis for continuing its infringing activities or for any claims of invalidity, non-infringement, or unenforceability.

VII. SUMMARY OF THE ASSERTED CLAIMS

A. '731 Patent (Asserted claim 96)

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98. Of the Asserted Claims of the '731 Patent, there is one independent claim (96). This claim reads as follows:

Claim 96:

A method for linking textual source material to external reference materials for display, the method comprising the steps of:

determining a beginning position address of textual source material stored in an electronic database;

cutting the textual source material into a plurality of discrete pieces;

determining a starting point address and an ending point address of at least one of the plurality of discrete pieces based upon the beginning position address;

recording in a look up table the starting and ending point addresses;

linking at least one of the plurality of discrete pieces to at least one of a plurality of external reference materials by recording in the look-up table, along with the starting and ending point addresses of the at least one of the plurality of discrete pieces, a link to the at least one of the plurality of external reference materials, the plurality of external reference materials comprising any of textual, audio, video, and picture information;

displaying an image of the textual source material;

selecting a discrete portion of the displayed textual source material image;

determining a display address of the selected discrete portion;

converting the display address of the selected discrete portion to an offset value from the beginning position address;

comparing the offset value with the starting and ending point addresses recorded in the look-up table to identify one of the plurality of discrete pieces;

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selecting one of the plurality of external reference materials corresponding to the identified one of the plurality of discrete pieces;

retrieving the selected one of the plurality of external reference materials using a recorded link to the selected one of the plurality of external reference materials; and

displaying the retrieved external reference material.

B. '633 Patent (Asserted claims 62, 64, 70, 146, 148, 149, 154 and 164)

99. Of the Asserted Claims of the '633 Patent, there are two independent claims (62 and 146) and six dependent claims (64, 70, 148, 149, 154 and 164). Those claims read as follows:

Claim 62:

A computer-implemented method for linking textual source material to external reference materials for display, the method comprising the steps of:

determining a beginning position address of textual source material stored in an electronic database;

cutting the textual source material into a plurality of discrete pieces;

determining starting point addresses and ending point addresses of the plurality of discrete pieces based upon the beginning position address;

recording in a look up table the starting and ending point addresses;

linking the plurality of discrete pieces to external reference materials by recording in the look-up table, along with the starting and ending point addresses of the plurality of discrete pieces, links to the external reference materials, the external reference materials comprising any of textual, audio, video, and picture information;

selecting a discrete portion of an image of the textual source material;

determining a display address of the selected discrete portion;

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converting the display address of the selected discrete portion to an offset value from the beginning position address;

comparing the offset value with the starting and ending point addresses recorded in the look-up table to identify one of the plurality of discrete pieces;

selecting one of the external reference materials corresponding to the identified one of the plurality of discrete pieces; and

displaying on a computer the selected one of the external reference materials.

Claim 64:

The method of claim 62, wherein cutting the textual source material into a plurality of discrete pieces is done automatically.

Claim 70:

The method of claim 62, wherein the link is reference information for retrieving the selected one of the external reference materials.

Claim 146:

A computer-implemented method for linking textual source material to external reference materials for display, the method comprising the steps of:

determining a beginning position address of textual source material stored in an electronic database;

cutting the textual source material into a plurality of discrete pieces;

determining a starting point address and an ending point address of at least one of the plurality of discrete pieces based upon the beginning position address;

recording in a look up table the starting and ending point addresses;

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linking at least one of the plurality of discrete pieces to at least one of a plurality of external reference materials by recording in the look-up table, along with the starting and ending point addresses of the at least one of the plurality of discrete pieces, a link to the at least one of the plurality of external reference materials, the plurality of external reference materials comprising any of textual, audio, video, and picture information;

selecting a discrete portion of an image of the textual source material;

determining a display address of the selected discrete portion;

converting the display address of the selected discrete portion to an offset value from the beginning position address;

comparing the offset value with the starting and ending point addresses recorded in the look-up table to identify one of the plurality of discrete pieces;

selecting one of the at least one of the plurality of external reference materials *corresponding* to the identified one of the plurality of discrete pieces; and

displaying on a computer the selected one of the plurality of external reference materials.

Claim 148:

The method of claim 146, wherein cutting the textual source material into a plurality of discrete pieces is done automatically.

Claim 149:

The method of claim 148, wherein automatically cutting the textual source material into a plurality of discrete pieces is done using a grammar parser.

Claim 154:

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The method of claim 146, wherein the link is reference information for retrieving the selected one of the plurality of external reference materials.

Claim 164:

The method of claim 146, wherein the plurality of external reference materials comprises a plurality of text based external reference materials.

C. '985 Patent (Asserted claims 1, 6, 10, 11, 16, 37, 41 and 44)

100. Of the Asserted Claims of the '985 Patent, there are two independent claim (1 and 11) and six dependent claims (6, 10, 16, 37, 41 and 44). Those claims read as follows:

Claim 1:

A computer implemented method for processing database content, the method comprising the steps of:

syndicating one or more data objects associated with a term database to one or more remote computers, wherein the one or more data objects contain data associated with one or more terms;

parsing one or more documents to identify at least one term based on at least one rule;

identifying content for the at least one term; and

associating the at least one term with the identified content;

wherein the one or more data objects associated with the term database provide a representation of at least a portion of the term database at the one or more remote computers and are used to link the identified content with the at least one term.

Claim 6:

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The method of claim 1, wherein the one or more remote computers access data associated with the term database for linking to the supplemental content, without a connection to the term database.

Claim 10:

A computer program of instructions configured to be readable by at least one programmed computer processor to execute a computer process for performing the method as recited in claim 1.

Claim 11:

A computer implemented system for processing database content, the system comprising:

a term module for parsing one or more documents to identify at least one term based on at least one rule;

a processing module for identifying content for the at least one term; and

a term database for storing the identified content in association with the at least one term;

wherein one or more data objects associated with the term database are syndicated to one or more remote computers for providing a representation of at least a portion of the term database at the one or more remote computers and for linking the identified content with the at least one term, wherein the one or more data objects contain data associated with one or more terms.

Claim 16:

The system of claim 11, wherein the one or more remote computers access data associated with the term database for linking to the supplemental content, without a connection to the term database.

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Claim 37:

The method of claim 1, wherein the identified content is displayed on a user interface in response to a selection of the at least one term by a user.

Claim 41:

The system of claim 11, wherein the identified content is displayed on a user interface in response to a selection of the at least one term by a user.

Claim 44:

The system of claim 11, wherein the content comprises one or more of text, image, sound, video and mixed media.

VIII. MICROSOFT'S ACCUSED PRODUCTS

101. The Accused Instrumentalities for the '731 and '633 patents are the 2013, 2010, and 2007 versions of Microsoft Word, Outlook, PowerPoint, OneNote, and Publisher for Windows, and the 2011 versions of Microsoft Word, Outlook, and PowerPoint for Macintosh.

102. The Accused Instrumentalities for the '985 patent are the 2013 and 2010 versions of Microsoft Office for Windows, comprising at least Word, Outlook, PowerPoint, OneNote, and Publisher; and the 2011 version of Microsoft Office for Macintosh, comprising at least Word, Outlook, and PowerPoint.

103. For the '731 and '633 patents, the accused functionality is the spell check functionality of each of the accused products; the grammar check functionality of Word and Outlook in both Windows and Macintosh versions, and the "Actions"/"Smart Tags" functionality of Word, Outlook, and PowerPoint in Windows versions.

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2.9.9 BKF

The **BKF** structure contains information about a bookmark (1).

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
ibkl																															
bkc																															

ibkl (4 bytes): An unsigned integer that specifies a zero-based index into the [PlcBkl](#) or [PlcBklId](#) that is paired with the [PlcBkf](#) or [PlcBkfd](#) containing this BKF. The entry found at that index specifies the location of the end of the bookmark (1) that is associated with this BKF. **ibkl** MUST be unique for all BKF's in a given [PlcBkf](#) or [PlcBkfd](#).

bkc (2 bytes): A [BKC](#) that specifies further information about the bookmark (1).

2.9.66 FACTOIDINFO

The **FACTOIDINFO** structure contains information about a smart tag bookmark in the document.

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
dwId																															

A	fUnused	fto
pfpb		

dwId (4 bytes): An unsigned integer that specifies a unique value this is used to reference the smart tag bookmark associated with this FACTOIDINFO. This MUST be unique for all FACTOIDINFO structures in all [Document Parts](#).

A - fSubEntity (1 bit): A bit flag that specifies whether the factoid that is marked by the smart tag bookmark associated with this FACTOIDINFO structure is a sub-entity of a larger smart tag from the grammar checker.

fUnused (15 bits): This field MUST be ignored.

fto (2 bytes): An [FTO](#) specifying further information about the smart tag bookmark that is associated with this FACTOIDINFO.

pfpb (4 bytes): This field MUST be ignored.

From US 5,649,222

“The first cell 82 indicates that a range of correctly spelled words begins at character position 0. Since there are no flags until character position 112, the document is clean in the range from character position 0 to 111. The error flag in cell 84 indicates that there is a potential spelling error starting with character position 112. The next cell 86 indicates the character range starting at position 120 is correctly spelled. The range of correctly spelled words continues until position 550, represented in the next cell 88. This cell 88 represents the beginning of a range of characters that need to be checked. The final cell 90 indicates that the end of the document is at character position 700. Thus, the range from position 550 to the end of the document remains to be checked in this example.” at Col. 7, Lines 35-49.

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9 *the speller to get the suggestions?*

10 A. *Yes.*

11 Q. *And it's likewise the case that -- just*

12 *to be clear, the error -- the underlining I was*

13 *talking about was the red squiggly for the spell*

14 *check, and for the green squiggly, same generally*

15 *true, that we'll -- green squiggly, the character*

16 *position range associated with the grammar check error*

17 *flag in the grammar check table?*

18 A. *Yes, with my same clarification for each*

19 *CP, that there exists an ferror on the SPLS or the*

20 *associated -- actually, for grammar it may still be*

21 *SPLS.*

22 *It uses a different PLC because there are*

23 *different PLCs for different proofing tools, but*

24 *the -- but the logic is the same.*

3. Claim 96c

“cutting the textual source material into a plurality of discrete pieces;”

127. Based on my analysis, I conclude that claim 96c is literally infringed via each of Sentius' Accused Instrumentalities having the accused spell check, grammar check or actions features.

128. As supported below, in the accused products, once the document/file has been loaded into memory, each of the accused functionalities cuts the textual content of the document/file into discrete pieces that identify sections of the textual content of interest to that functionality. In Word, the spell check

a. Evidence from Source Code

This image is a solid black rectangle with no visible features, text, or patterns.

The image consists of a single, uniform black rectangle that fills the entire frame. There are no discernible features, text, or patterns other than the solid black color.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
See Also	

[illegible]

142. Substantially similar functionality is found in PowerPoint spell check at MS_SENTIUS_SC002297-MS_SENTIUS_SC002298, MS_SENTIUS_SC000341-MS_SENTIUS_SC000342, MS_SENTIUS_SC000338-MS_SENTIUS_SC000341, MS SENTIUS SC000341.

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17 *Q. In generating that table?*

18 *A. Yes.*

19 *Q. And is it, on a general overview basis, correct*

20 *to say that background spell check will loop through in*

21 *the idle time the sentences in a document and pass those*

22 *sentences to a grammar checker, which will then return*

23 *an error state if there's a grammatical error in that*

24 *sentence?*

25 *A. I think -- yes. I think that's a good general*

15

1 *description.*

4. Claim 96d

“determining a starting point address and an ending point address of at least one of the plurality of discrete pieces based upon the beginning position address;”

153. Based on my analysis, I conclude that claim 96d is literally infringed via each of Sentius' Accused Instrumentalities having the accused spell check, grammar check or actions features.

154. As supported herein, in the accused products, each of the accused functionalities determines the starting and ending point addresses of the textual content of interest. These starting and ending addresses are based upon the beginning position address and can be used to look-up the data comprising the corresponding words or phrases in memory. For example, in Word the spell check functionality determines a CP = X starting position and CP = Y ending position for each correctly spelled region and misspelled word. Likewise, the grammar check functionality determines a CP = X starting position and CP = Y ending position for each grammatically correct region and each region containing grammatical

a. Evidence from Source Code

[illegible]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	
[REDACTED]		[REDACTED]	

[REDACTED]	[REDACTED] [REDACTED]
[REDACTED]	[REDACTED] [REDACTED]
[REDACTED]	[REDACTED] [REDACTED]
[REDACTED]	[REDACTED] [REDACTED]
See Also	[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

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See Also	

169. Substantially similar functionality is found in PowerPoint spell check at MS_SENTIUS_SC002297-MS_SENTIUS_SC002298, MS_SENTIUS_SC000341-MS_SENTIUS_SC000342, MS_SENTIUS_SC000338-MS_SENTIUS_SC000341, MS_SENTIUS_SC000341.

170. Substantially similar functionality is found in OneNote spell check at MS_SENTIUS_SC001730-MS_SENTIUS_SC001731, MS_SENTIUS_SC001683-MS_SENTIUS_SC001687, MS_SENTIUS_SC001682, MS_SENTIUS_SC001674-MS_SENTIUS_SC001675, MS_SENTIUS_SC001673-MS_SENTIUS_SC001674, MS_SENTIUS_SC001670-MS_SENTIUS_SC001671, MS_SENTIUS_SC001697, MS_SENTIUS_SC000418, MS_SENTIUS_SC000419-MS_SENTIUS_SC000420.

171. Substantially similar functionality is found in InfoPath spell check at MS_SENTIUS_SC002443-MS_SENTIUS_SC002445, MS_SENTIUS_SC002448- MS_SENTIUS_SC002452.

172. Substantially similar functionality is found in Publisher spell check at MS_SENTIUS_SC002682-MS_SENTIUS_SC002683, MS_SENTIUS_SC002684- MS_SENTIUS_SC002691, MS_SENTIUS_SC002697- MS_SENTIUS_SC002701.

173. Furthermore,

as demonstrated by:

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6 *positions of the erroneous sentence?*

7 *A. Yes. I think that's a good description.*

8 *Q. And is it -- okay. When -- is it also fair to*

9 *say that that error flag will indicate, A, the range of*

10 *character positions where there's an error and also*

11 *where it should be green squiggled?*

12 *MR. LAMBERSON: Object to form.*

13 *You can still answer if you can.*

14 *THE WITNESS: Oh.*

15 *Yes, in general. The character range would*

16 *represent that there is an error and that it should be*

17 *displayed in a way to indicate that there's an error.*

5. Claim 96e

“recording in a look-up table the starting and ending point addresses;”

181. Based on my analysis, I conclude that claim 96e is is literally infringed via each of Sentius' Accused Instrumentalities having the accused spell check, grammar check or actions features or alternatively is met under the doctrine of equivalents. ..

182. As supported herein, in the accused products, each of the accused functionalities stores in a respective look-up table the starting point and ending addresses of words or phrases of interest such as misspelled words, grammatically incorrects words or phrases, or actions words. In Word, the spell check and grammar check functionalities store starting and ending point addresses in PLC structures. Likewise the actions functionality records the starting and ending positions of actions words in the actions look-up table. The PLC structures (or other data structures set forth below) are data structures that are used to

183. Alternatively, if any of the accused spell check, grammar check or actions data structures are not literally considered to meet this claimed limitation then they are equivalents thereof in that they have the substantially the same function to provide substantially the same result and in substantially the same way as the claimed look-up table in as much as they are used to record the relative offset positions of the terms or phrases of interest in a data structure that is subsequently used to look up linking information.

Word 2013 – Spelling

- [REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

■ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- [REDACTED]

[REDACTED]

[illegible]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

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See Also	

Word 2013 – Grammar

- [REDACTED]

[REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[illegible]

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- 1 Q. Again, whether it's the full sentence or less
2 than the sentence, it will -- the green squiggly will
3 correspond to the character position range in the table
4 for the error flag, for that error flag?
5 A. Yes. I believe that's right.

6. Claim 96f – “a link to the at least one of the plurality of external reference materials,”

“[L]inking at least one of the plurality of discrete pieces to at least one of a plurality of external reference materials by recording in the look-up table, along with the starting and ending point addresses of the at least one of the plurality of discrete pieces, a link to the at least one of the plurality of external reference materials, the plurality of external reference materials comprising any of textual, audio, video, and picture information;”

Claim Construction Meaning

“pointers to data or information or the location of data or information that is external to the source material”

213. I understand that the Court has also recently ruled that a link can be “reference information” as that term is used in its ordinary meaning.

214. Based on my analysis, I conclude that claim 96f is is literally infringed via each of Sentius' Accused Instrumentalities having the accused spell check, grammar check or actions features or alternatively is met under the doctrine of equivalence.

215. As supported herein, in the accused products, in addition to storing the starting and ending addresses in the respective table, each of the accused functionalities also records a link in its respective look-up table to at least one external reference material. For Word, the spell check look-up table contains

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an SPLS structure that, in turn, contains reference information (an fError flag corresponding to a given CP index in the spell check table) that is a pointer or link to the spell check dictionary that contains the properly spelled words to display as well as to the misspelled word that is used to query the spell check dictionary to retrieve the properly spelled words for that misspelled word. Likewise, for Word, the grammar check look-up table contains an SPLS structure that, in turn, contains reference information (an fError flag corresponding to a given CP index in the grammar check table) that is a pointer or link both to the grammar check dictionary that contains the grammatically correct words or phrases to display as well as to the grammatically incorrect word or phrase itself, which is used to query the grammar check dictionary to retrieve the grammatically correct words or phrases for display for that grammatically incorrect word or phrase. Similarly, the actions look-up table is the BMDS look-up table that contains an STTB string table storing reference information (namely a pointer to a factoid property bag FACTOIDINFO corresponding to a given CP index) that points both to the actions dictionary containing external material for display related to the actions word as well as to the action word itself, which is used to query the actions dictionary to retrieve the external material for display for that action word. Accordingly, I find that the claim element is literally met as a link need not be an address, can be reference information, and may be an indirect pointer. This element would also be met under the doctrine of equivalents however because the reference information I've described above acts to link the misspelled, actions word or grammatically incorrect word or phrase precisely to the respective information for display for that misspelled word, actions word or grammatically incorrect word or phrase as shown by the fact that the same information from a given dictionary will be displayed each time for that given word or phrase.

216. More particularly, the respective fError:: CP Index field pointers stored in the SPLS structures for given entries in the spell check and grammar check tables refer the Word program to the appropriate .dll

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and .lex file to retrieve reference information for those entries from the corresponding spell check and grammar check dictionaries.

217. If the SPLS structures in the spell check and grammar check look-up tables are not found to literally comprise “links,” they are nonetheless the equivalents of “links” because they refer the Word program to invoke the appropriate .dll and .lex files and to pass the selected word or phrase to the invoked .dll and .lex files to retrieve the responsive content to be displayed.

218. For Word Actions/Factoids, the actions BMDS (“bookmark data structure”) contains an STTB “string table” storing “FACTOIDINFO” structures with pointers to factoid property bags. The factoid property bag pointer stored in the FACTOIDINFO structure contains the address of reference information for a given factoid/action and is used to retrieve that information for display to the user and control of further actions by the user.

219. The 731 and 633 patents describe the process of linking to external reference material, recording and using links in a look-up table (LUT) or array, **202**. As described in exemplary Figure 2 of these Sentius patents, when a location of (100, 75) is selected in a document display, the corresponding offset is computed to be 25. This offset of 25 is then used to identify a suitable range of offsets in the look-up table **202** that includes the offset of 25. As identified in the LUT (look-up table) **202**, the correct range is between offsets of 20 through 27. The example of the link corresponding to this row of the look-up table is “200”, which indicates that an “index” or “key” of value 200 should be directly or indirectly used to resolve an external reference source (of type “text”, not “picture” or “sound”) to obtain the appropriate “value” in return.

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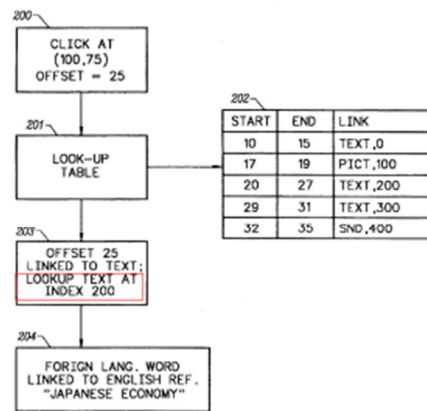


FIG. 2

220. An example from Microsoft's '222 patent that indicates how the accused products carry out the functionality of linking and resolving an external reference using this recorded link from a look-up table (LUT) that is constructed as a dynamic array.

An example will illustrate operation of the background
35 speller. Assume that the document is the single sentence:

This cannot be bad.

Before background spell checking commences, the spelling table appears as Table 1 below. In addition, Table 1 shows the correlation between character position and the characters in the document. In its initial state, the entire document is not checked as reflected by the dirty code in character position 0 and the lack of other status codes.

TABLE 1

<u>DIRTY</u>	<u>END</u>
0	18

T	h	i	s	c	a	n	n	t	b	e	b	a	d	.				
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18

CP = 3

CP = 16

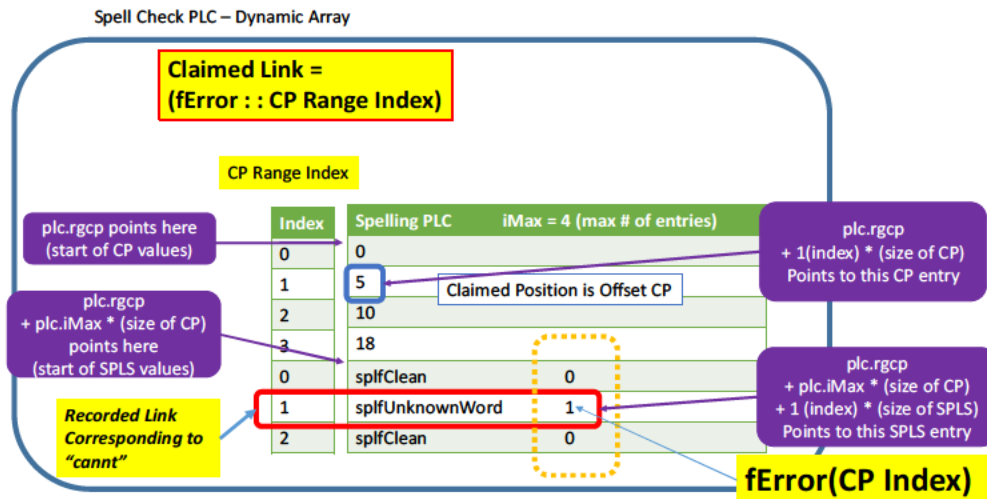
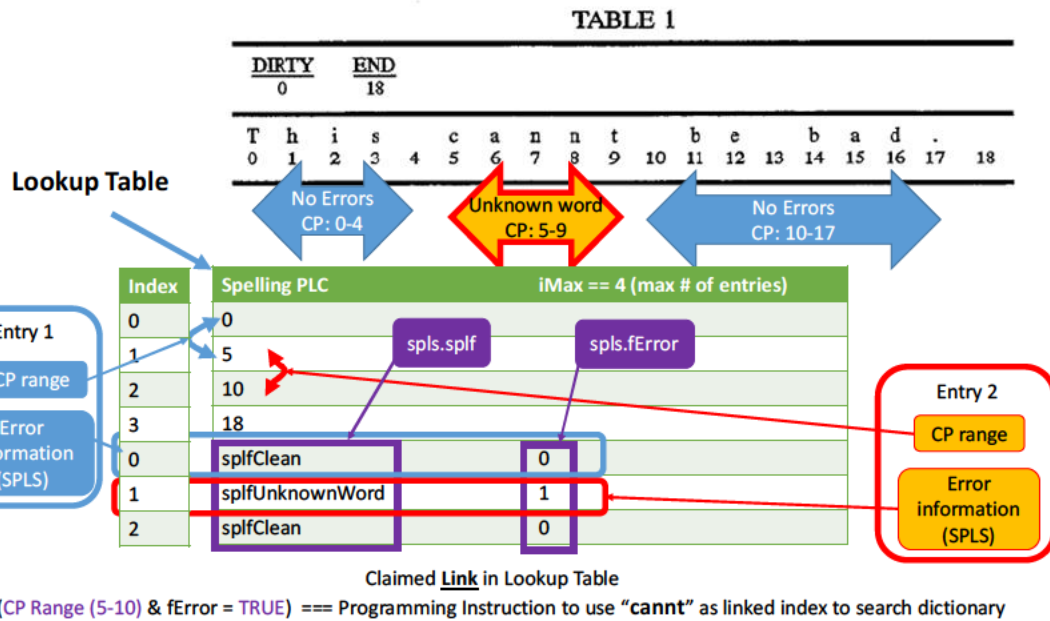
CP = Character Position

221. In the example of "This cannot be bad.", Microsoft Word carries out a number of steps to construct a look-up table as will be shown.

[illegible]

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227. I will describe next how this link is used to retrieve the external reference materials. Once the dynamic array has been created and the link has been recorded:

228 [REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

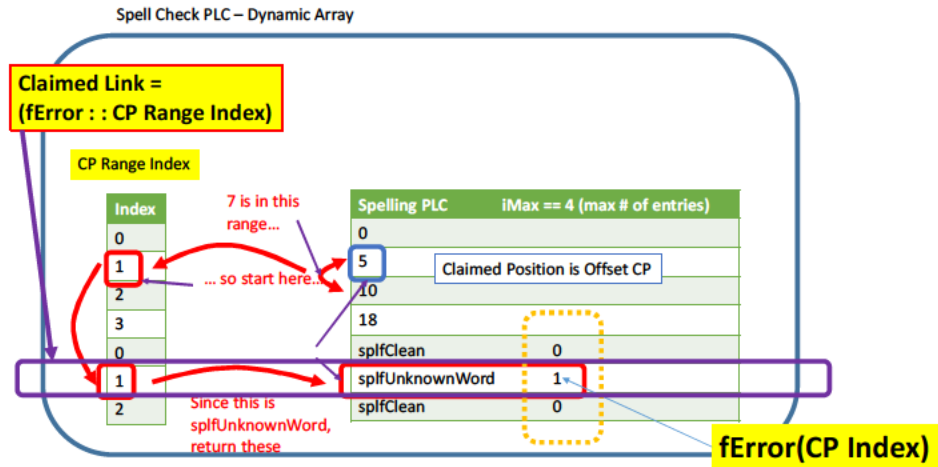
[REDACTED]

[REDACTED] [REDACTED]

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4. Retrieve data used as input (“index”) to dictionary, based on retrieved range start value. “Index” is the unknown word, or “cannt” in the example, that is resolved from the link (fError(CP Index)) of the look-up table in Microsoft’s products.



233. In summary, contrary to Microsoft’s non-infringement contentions, the “link” in the accused products is not just a single True/False bit that says “Go look up a dictionary” and stops there. It is a link that links the offset positions that are recorded in the look-up table to a specific fError(CP Index) flag, that shares a common CP Index with the offset region of the corresponding discrete piece, and is a programming instruction to retrieve the key value “**cannt**” that is used to retrieve the external reference material corresponding to the discrete piece of source material “**cannt**”.

Word 2013 Grammar

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234.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

Word Actions

247. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

255. The link in the accused actions/factoids functionality in the accused products is in the form of a pointer which stores the address of a factoid property bag containing information about each linked factoid. This pointer is used to retrieve the external reference material corresponding to an identified action/factoid selected in response to a user click.

a. Evidence from Source Code

Word 2013 – Spelling

256. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

Word 2013 – Grammar

- 173-

[illegible]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

	[REDACTED]
	[REDACTED]
	[REDACTED]

[illegible]

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7 *Q. And when the user now has -- okay, so*
8 *we've red squiggled where the character position --*
9 *the characters associated with the error flag*
10 *condition, and when the user right clicks on that, is*
11 *it correct that the right click location on the screen*
12 *will be converted to a character position in the*
13 *document and then we would look in the spell check*
14 *P -- PLC table to see whether the right click was at a*
15 *character position corresponding to the error flag*
16 *condition?*

17 *A. Yes. The character position that we --*
18 *that we determine from the right click will be used to*
19 *identify which CP in the array of CPs and which*
20 *associated SPLS should be -- should be associated with*
21 *that CP, and we'll refer to the properties within that*
22 *SPLS to determine whether it's clean or dirty or an*
23 *error.*

12. Claim 96l

“selecting one of the plurality of external reference materials corresponding to the identified one of the plurality of discrete pieces;”

325. Based on my analysis, I conclude that claim 96l is infringed by Microsoft via each of the Accused Instrumentalities.

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326. In the accused products, Word, if the selected section corresponds to a misspelled word as indicated by the fError:: CP Index field pointer of the SPLS structure for that entry in the spell check look-up table, the spell check functionality accesses the contents of the corresponding spell check dictionary to build in memory a list of spelling suggestions as potential replacements for the misspelled word. If the selected section corresponds to a set of grammatically incorrect words or to a grammatically incorrect phrase as indicated by the fError:: CP Index field pointer of the SPLS structure for that entry in the grammar check look-up table, the grammar check functionality accesses the contents of the corresponding grammar check dictionary to build a list in memory of suggested grammatical corrections therefore.

a. Evidence from Source Code

Word 2013 – Spelling

327.

- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]
- [REDACTED]

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■ [REDACTED]

■ [REDACTED]

■ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

■ [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

■ [REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

CONFIDENTIAL-OUTSIDE ATTORNEYS' EYES ONLY - RESTRICTED

[REDACTED]

[REDACTED]

[REDACTED] [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[illegible][illegible]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

-

[REDACTED]

[REDACTED]

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337.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

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See Also	

See Also	

See Also	

343. Substantially similar functionality is found in PowerPoint spell check at MS_SENTIUS_SC000480, Lines 792-838, MS_SENTIUS_SC002301, Lines 163-174, MS_SENTIUS_SC002305, Lines 238-245, MS_SENTIUS_SC002303, Lines 87-111, MS_SENTIUS_SC002519, Lines 395-399, MS_SENTIUS_SC002533-MS_SENTIUS_SC002535, Lines 2567-2689.

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13. Claim 96m

“retrieving the selected one of the plurality of external reference materials using a recorded link to the selected one of the plurality of external reference materials; and”

351. Based on my analysis, I conclude that claim 96m is literally infringed via each of the Accused Instrumentalities having the accused spell check, grammar check or actions features.

352. In the accused products, the spell check functionality retrieves from the corresponding spell check dictionary spelling suggestions for a given misspelled word from the spell check dictionary into memory and then displays the spelling suggestions adjacent to the misspelled word so the user can select one for the accused product to use to replace the misspelled word in the document. In particular, when a user indicates a portion of the displayed document such as by right- clicking over the misspelled word, the system determines the corresponding display coordinates where the user clicks and converts those into a character position. It then looks up that character position in the spell check table. If the character position falls within the range of character positions that have an associated recorded fError flag (i.e., where the CP Index records the location), the system retrieves the corresponding misspelled word (and its language) and uses it to retrieve the spelling corrections for display from the spell check dictionary for that language.

353. Likewise, the grammar check functionality retrieves from the corresponding grammar check dictionary suggested grammatical corrections for a given word or phrase into memory and then displays the list adjacent to the grammatically incorrect words or phrase so the user can select one for the accused product to use to replace the grammatically incorrect words or phrase in the document. In particular, when a user indicates a portion of displayed document such as by right-clicking over a grammatically incorrect word or phrase, the system determines the corresponding display coordinates where the user clicked and converts those to a character position. It then looks up that character position in the grammar check table.

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If the character position falls within the range of character positions that have an associated fError flag (i.e., where the CP Index records the location), the system retrieves the corresponding grammatically incorrect word or phrase (and its language) and uses it as a query to retrieve the grammar corrections for display from the grammar check dictionary for that language.

354. Similarly, the actions functionality retrieves content for a corresponding actions dictionary for a given action word and then displays it to the user. In particular, when a user indicates a portion of displayed document such as by right-clicking over an actions word, the system selects the corresponding display coordinates to convert to a character position. It then looks up that character position in the actions table. If the character position falls within the range of character positions for an actions word (i.e. where the CP index records the location), the system uses the associated link (pointer to factoid property bag) to retrieve for display the corresponding external content for that actions word.

a. Evidence from Source Code

Word 2013 – Spelling

355.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

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[illegible]

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[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]	
	[REDACTED]	
[REDACTED]	[REDACTED]	
	[REDACTED]	
[REDACTED]	[REDACTED]	
[REDACTED]	[REDACTED]	

[REDACTED]	[REDACTED]	
	[REDACTED]	
[REDACTED]	[REDACTED]	
	[REDACTED]	
[REDACTED]	[REDACTED]	
[REDACTED]	[REDACTED]	

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363.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]

[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]
See Also	

371. Substantially similar functionality is found in OneNote spell check at MS_SENTIUS_SC001635-MS_SENTIUS_SC001636, MS_SENTIUS_SC001607-MS_SENTIUS_SC001608, MS SENTIUS SC001653, MS SENTIUS SC001539, MS SENTIUS SC000403-

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because it would not be practical to display the locations of actions words in the context of the document in combination with action choices without the background processing for the same reasons above as with background spell checker/grammar checker. Because it also not practical for Microsoft to implement actions using metadata tags in the document for the reasons explained above, the best non-infringing alternative to smart tags would be to remove smart tags.

B. Automatic Dictionary Updates ('985 Patent)

184. Before the introduction of the accused "Automatic Update" feature in Microsoft Word and the other accused products, there existed no feature within Microsoft Word that would allow the remote computer running the accused product to subscribe to syndicated dictionaries such that it could automatically download the syndicated dictionaries. It is my opinion that absent the use of the claimed technology there is no acceptable alternative because without the accused "Automatic Update" feature Microsoft cannot syndicate dictionaries nor could remote computers download updates automatically.

185. The best non-infringing alternative for automatic dictionary updates would be to offer non-syndicated dictionaries requiring manual download.

I confirm that the contents of this report are true to the extent that it contains facts and that it contains my honest opinions and beliefs on the matters I have been asked to opine on.

9/8/14

Date

Vijay K. Madisetti

Vijay K. Madisetti, PhD